



# EVALUATING THE CAUSES OF ILLNESS IN THE COAL MINING AREAS OF JHARKHAND: A CASE STUDY OF HAZARIBAG AND DHANBAD MINES

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## ABSTRACT

The present study is to assess the main causes of illness in the coal mining areas and to study the impact of pollution due to coal mining on human health. India is a tropical country which is rich in mineral resources. Coal is one of the main mineral resources of India. India is one of five countries with largest coal reserves. Largest amount in our GDP is contributed by coal. Many industries like iron and steel company, power sector, Cement Company and many other industries are dependent on coal. Coal sector plays an important role in electricity generation in our country. But on the other side its adverse effect on human health and environment has also become a main concern of our country. Environmental and health hazards due to air and water borne pollution of coal mining is making our lives miserable.

**KEY WORDS:** coal mining, pollution, Air borne diseases, water borne diseases, human health.

## INTRODUCTION:

India is rich in fuels and one of the most popularly used fossil fuel is coal which is used as one of the important sources of energy for industrial use. In Jharkhand various Governmental and Non-governmental institutions are carrying out the mining activities. The regions where the mining is carried out in Jharkhand are Auranga, Bokaro, Dhanbad, Jharia, Giridih, Karanpur, Ramgarh and Hutar. This paper mainly emphasises on the environmental and health problems that is generated through the hazardous pollutants which are the major cause of illness in coal mining areas. Coal is one of the major sources for generation of energy in the country specifically for the use in industrial sector. The coal mining is spread over different states in India. Jharkhand is one among the listed states producing coal which dates back to Gondwana times. After several decades of coal production the region is witnessing several environmental problems and various research works are carried out in the area to draw attention of the policy makers to deal with the problem related to environment raising health concerns specifically arising out in the coal belt. These health issues are one of the negative externalities which has gained less attention till date. Various forms of pollutions arising out of coal mining creates negative impact on health and are major causes of illness in the mining areas of Jharkhand. The present paper aims to highlight the major causes of illness in the mining areas of Jharkhand especially of Hazaribagh and Dhanbad region.

## OBJECTIVES:

- To highlight the causes of illness arising out in the area of coal mines in Jharkhand
- To study the impact of coal mining on the health of people living near coal mine zones of Jharkhand.

## METHODOLOGY:

The present paper is based on primary as well as secondary data. The primary study is conducted in the regions of coal belt of Dhanbad and Hazaribagh District where the data is also collected from the controlled villages in order to make a comparison of villages from the mine zones and from the villages that don't belong to mine zones. The secondary data is based on various survey carried out by the governmental survey, reports and literature based on various scholarly articles published on the topic.

Villagers belonging to mining areas of Jharkhand basically faced various environmental problems in the form of various pollutions like Air Water and soil pollution as compared to the villages outside mining zones.

Similarly various health problems and instances of illness has been witnessed by the villages falling into the mining zones as compared to non mining zone villages. The villagers of coal mining areas complained of various sorts of illness and the controlled villages have less health issues.

## Area of the study:

Dhanbad and Hazaribagh are the two districts of Jharkhand which holds first 1st and 2nd position of coal reserves in Jharkhand. The mining activity in Dhanbad is carrying out since 1774 whereas in Hazaribagh the mining activity has been recently started. The health hazards due to coal mining has become the main concern for India and world nowadays. The degradation of environmental & health conditions is decreasing human development. To compare the negative health

impact of air and water borne pollution due to coal mining these two areas have been chosen. From north karanpura coalfields four villages' barkagaon, urub, chepa and jhumra near NTPC coal mines has been chosen in hazaribagh. Same as four villages from dhanbad near BCCL coal mining projects- jahajtand, sudamdih, phoosbangla, sindri mining areas of Eastern Jharia Coalfields has been chosen.

## Hazaribagh:

S. No.	Name of Villages	Distance from Mine (KM)	Category	Total No. of Households
1.	Barkagaon	1.5 km	Adjacent	80
2.	Urub	1 km	Adjacent	55
3.	Chepa	7 km	distant	60
4.	Jhumra	10 km	distant	77

## Dhanbad:

S. No.	Name of Villages	Distance from mine (KM)	Category	Total No. of Households
1.	Jahajtand	0.5 km	adjacent	70
2.	Sudamdih	0.5 km	adjacent	95
3.	Phoosbangla	5 km	distant	65
4.	Sindri	6 km	distant	50

## FINDINGS AND RESULTS:

In this study serious negative impact on health and environment was found. Coal combustion, dumping, transportation and other processes of coal mining highly effected the aquatic flora and fauna of the locality which caused decrease in living of local peoples. People are suffering from various air borne and water borne diseases.

A total number 20 households from markagaon and 20 households from Urub were surveyed in mining villages of Hazaribagh and 20 households from Jahajtand and 20 households from sudamdih mining area of dhanbad were surveyed. Among them 36(12.5%) from hazaribagh and 48(18.7%) from dhanbad area stated that they are suffering from various health problems for last one year.

On the other hand 20 households from Chepa and Jhumra from Hazaribagh and 20 households from Phoosbangla and sindri were surveyed in the control villages. In control villages the health impact was very low (3.5%) in Hazaribagh & (0.5%) in dhanbad as compared to the mining areas of Dhanbad and Hazaribagh.

Table 1:

S. No.	Particulars	Mining Villages	Control Villages
1.	Impact on health	Dhanbad 48 (18.7%) Hazaribagh 36(12.5%)	Dhanbad 5(0.5%) Hazaribagh 3(0.3%)
2.	Major diseases	Skin disease, asthma, cancer, tuberculosis, bronchitis, pneumoconiosis	Cold, fever, malaria

It is also found in the study that the households of adjacent villages are highly effected with these diseases compared to the control villages. Water borne diseases like jaundice, typhoid, diarrhoea, cholera, tuberculosis etc. and air borne diseases like asthma, heart problem, allergies, cough and cold, weak eyesight, nose and throat infection etc. were found in the local peoples of mining areas.

**Table 2: Water Borne Diseases**  
(Distribution of population in terms of age group)

Water Borne Diseases	Population by Age				Total
	(0-20)	(20-40)	(40-60)	60+	
Cholera	12	08	06	05	31
Jaundice	20	13	10	-	43
Diarrhoea	15	07	11	04	37
Typhoid	25	17	05	06	53
Tuberculosis	14	09	23	03	49
Dysentery	09	17	21	07	50
Others	05	08	11	07	31

**Table 3: Air Borne Diseases**  
(Distribution of population on the basis of age group)

Air Borne Diseases	Population by Age				Total
	(0-20)	(20-40)	(40-60)	60+	
Asthma	05	08	26	18	57
Heart problem	03	15	35	21	73
Allergies	07	18	15	05	45
ENT infections	28	12	09	03	52
Lung infections	03	05	16	14	38
Gastrointestinal	07	19	27	06	59
Others	08	11	09	15	43

It is shown in the above two tables that local people are suffering from various air and water borne diseases. It is found in the study that people of the age group (0-20) are suffering much from typhoid. While people belonging to the age group of (20-40) are suffering from tuberculosis. Same as in the table the table no.3 it is found that the people belonging to the age group of (0-20) are suffering more from eyes, nose and throat infections while the old age the age group of (40-60) and 60 above are more effected with heart and gastrointestinal problems. Lung infections and other problems are also found in the 40+ age groups.

#### REFERENCES:

- I. Bell, S.E., York, R. (19 dec.2012) coal, injustice and Environmental Destruction: introduction to the special issue on coal and the Environment. Sage Journal.25(4). P.P.-359-367. <https://doi.org/10.1177/1086026612468138>
- II. Bose, A.K (1989).Environmental problem in coal mining areas: Impact assessment and Management strategies- A case study in India. Elsevier, Amsterdam
- III. Epstein, P. R., Buonocore, J.J., Eckerle, K., Hendryx, M., Benjamin M. Stout III, Heinberg, R., Richard, W. Clap, B.M., Reinhart, N. L., Ahern, Doshi, S.K., & Glustron, L. (2011). Full cost accounting for the life cycle of coal in ecological economics reviews. Robert Costanza, Carin Limburg and Ida Kubiszewski. Eds. Ann N. YAEAD. SCI 1219 :73-98
- IV. Erica Burt, Peter Orris, Susan Buchanan, Scientific Evidence of Health effects from coal use in Energy Generation, (2013) university of Illinois at Chicago school of public health.
- V. Garada, R. (2015). Coal mining environment and health problems: a case study of MCL affected Household at Talcher, Odisha (India).
- VI. Goswami, S. (2015). Coal mining and indigenous communities: a case study of Jharia coal Field. Vol(13). European Journal of economic series
- VII. Goswami, S. (2015). Impact of coal mining on Environment. European Researcher. Vole (92). PP 185-196
- VIII. Goswami, S. (2013). coal mining, environment and contemporary indian society. Global journal of human social science.
- IX. Goswami, S. (2013). Environment management in mining areas: a study of Ranigunj & Jharia Coal Field in India. Vol (13). Version 1.0. global Journals Inc. (USA)
- X. Govt. of India (2009). Background note for consultation meeting with policy makers on review of National Water Policy, Ministry of Water Resources. 50 pp
- XI. Gupta, A., Spears, D. (2017). Health externalities of india's expansion of coal plants: evidence from a national panel of 40,000 households. Journal of Environmental Economics and Management. 86). 262-276). journal homepage: [www.elsevier.com/locate/jeem](http://www.elsevier.com/locate/jeem).